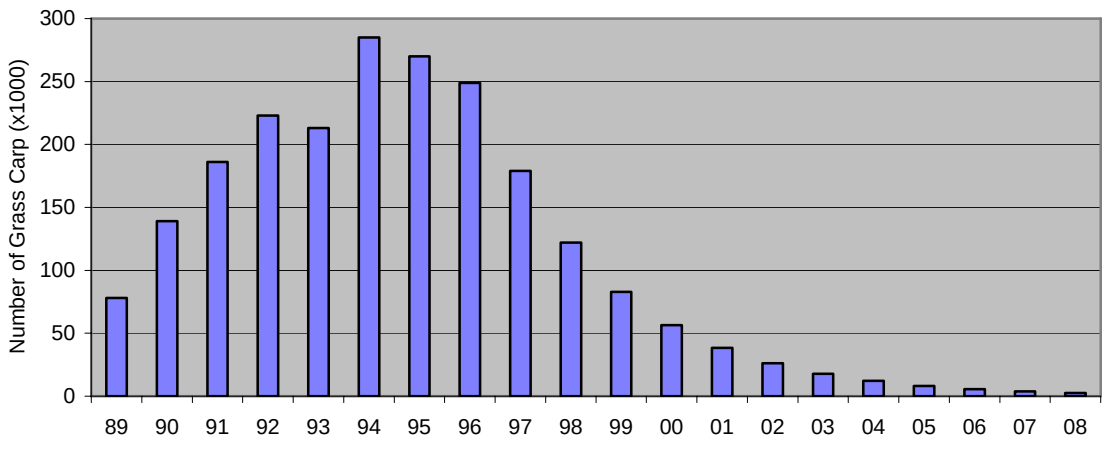
Summary of Proposed Maintenance Stocking of Sterile Grass Carp in the Santee Cooper Lakes

The Draft 2007 Aquatic Plant Management Plan proposes a small maintenance stocking of sterile grass carp in the Santee Cooper Lakes in 2007. Specifically, the draft plan calls for stocking a total of 2,620 sterile grass carp (2,100 in Lake Marion and 520 in Lake Moultrie). The draft plan is out for public review and comment until March 7, 2007 after which time the S.C. Aquatic Plant Management Council plans to review all comments, make any needed modifications, and approve the final plan for implementation.

Background

Triploid (sterile) grass carp were introduced to the Santee Cooper Lakes between 1989 and 1996 to control one of the largest (48,000 acres) hydrilla infestations in the southeast. They successfully controlled the growth of hydrilla, but because they cannot reproduce their population has declined which increases the potential for hydrilla regrowth. Grass carp population studies have been conducted by the U.S. Army Corps of Engineers in conjunction with the S.C. Department of Natural Resources for several years. These studies show that annual grass carp mortality is about 32% with most of the grass carp dying in about 10 years. Based on these findings, the grass carp population has declined significantly and was about 8,200 at the beginning of 2006 and is about 5,580 at the beginning of 2007 (Figure 1). As their numbers decline, their ability to continue to control hydrilla regrowth from tubers and root crowns also declines and hydrilla regrowth will eventually occur. To avoid the occurrence of widespread hydrilla infestations again in the Santee Cooper Lakes, low-level maintenance stocking of sterile grass carp is needed.

Figure 1. Estimated Sterile Grass Carp Population in the Santee Cooper Lakes Without Maintenance Stocking



Maintenance Stocking Strategy

In December 1999, the Aquatic Plant Management Council approved a maintenance stocking strategy to maintain very low levels of sterile grass carp in the Santee Cooper Lakes to control hydrilla yet allow growth of less palatable native plant species. This

strategy was arrived at after careful review of grass carp use in other lake systems in the United States and consultation with other resource managers.

The maintenance stocking strategy originally included two phases. Phase I would reduce the rate of decline in the population by introducing young fish to the lake system to replace older grass carp that were dying off. This would be achieved by stocking small numbers of grass carp each year to reduce the decline in the overall population from 32% to about 20%. Although additional grass carp would be added to the lake system, the total grass carp population would still decline. This phase was never initiated.

Phase II tries to maintain a minimum number of grass carp in the system indefinitely to keep hydrilla under control yet allow the growth of other less palatable vegetation. This phase would be initiated once over all plant populations increased systemwide and hydrilla regrowth begins in areas previously controlled by grass carp. Additional grass carp would be stocked to increase the grass carp population to the lowest level at which hydrilla was still controlled in previous years.

Although the maintenance stocking plan was approved in 1999, the plan has not yet been implemented. The majority of Aquatic Plant Management Council members were waiting for aquatic plant populations in the lakes to increase. That increase has occurred and is significant.

Aquatic Vegetation Coverage in 2006

Results from aerial surveys by Santee Cooper in 2006 indicate that overall aquatic plant growth increased 60% since last year to 12,960 acres. The largest increase was with submersed aquatic plants (108%) followed by emergent plants (50%). Total aquatic plant coverage for both lakes is at 8.1%; Lake Marion is at 9.3% and Lake Moultrie is at 6.2%. There has been a substantial increase in native vegetation, especially by species that are typically avoided by grass carp. These include tapegrass (Valisneria), lemon bacopa, and a variety of floating leaf plants. The surveys are a conservative estimate of plant cover because they are based solely on aerial photography and not ground surveys, so plants located in deeper water were not included. The total coverage is very close to the 10% goal agreed to by the DNR and Santee Cooper and is expected to increase next year. At the end of 2006, new populations of hydrilla were found growing in upper Lake Marion.

Maintenance Stocking Recommendation for 2007

A committee composed of DNR and Santee Cooper wildlife, fisheries and aquatic plant management staff was established in 2002 as part of the relicensing process to review aquatic vegetation coverage and management practices on the Santee Cooper Lakes. Each year, the committee submits recommendations to the S.C. Aquatic Plant Management Council for inclusion in the annual statewide Aquatic Plant Management Plan. This year the committee recommended initiating Phase II of the maintenance stocking plan by stocking 2,620 sterile grass carp in the Santee Cooper Lakes to bring the total number of grass carp up to the number present at the beginning of 2006 (8,200 fish). Annual stocking will replace those fish lost to mortality each year so the number of grass carp in the system will remain level in future years at 8,200 fish (Figure 2). They also recommended controlling hydrilla in Potato Creek and Stony Bay sub-impoundments, both of which are Wildlife Management Areas, with aquatic herbicides and

recommended planting native aquatic vegetation, such as tapegrass, in the Hatchery WMA.

The Aquatic Plant Management Council adopted the recommendations and approved it for inclusion in the 2007 Aquatic Plant Management Plan, which is now available for 30-day public review and comment. The public comment period will end March 7, 2007.

Figure 2. Estimated Sterile Grass Carp Population in the Santee Cooper Lakes After Maintenance Stocking